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AUTHOR Kelley, R. Mark; And Others
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ABSTRACT

This study examines the stages of acquisition of "gateway" drug use among fourth, fifth, and sixth grade students at 11 elementary schools in Arkansas. A 109-item questionnaire, administered in the classrooms by the classroom teachers, solicited information about the stages of acquisition and the subjects' use of alcohol, smokeless tobacco, cigarettes, and marijuana, as well as demographic information. Complete data were collected from 464 students. Of respondents, 77.4 percent were white. Results were analyzed within stages of use defined as: precontemplation 1--those who had not tried the substance and were not planning to; contemplation--those who had not tried the substance but were planning on trying it sometime; precontemplation 2--those who had tried the substance but were not planning to try it again; initiation--those who had tried the substance and/or were planning on trying it in the next 30 days; action--those who had used the substance regularly for up to 6 months; maintenance--those who had been using the substance for 6 months or longer; and habit change--those who had been using the substance regularly for at least 6 months and were thinking of stopping. Some of the findings were: (1) for alcohol use, 61 percent were in the precontemplation 1 stage, 24.1 percent in the precontemplation 2 stage, and 8.2 percent in the initiation stage; (2) for smokeless tobacco, 71.6 percent were in the precontemplation 1 stage, 2.4 percent in the contemplation stage, and 15.9 percent in the contemplation 2 stage; (3) for cigarettes, 80.8 percent indicated the precontemplation 1 stage, 1.3 percent the contemplation stage, 9.1 percent the precontemplation 2 stage, and 3.9 the initiation stage; (4) for marijuana, 93.5 percent indicated the precontemplation 1 stage, 0.4 percent the contemplation stage, and 0.9 percent the precontemplation stage. The conclusion is that the Stages of Acquisition of Gateway Drug Use model may be a useful tool for examining drug use among upper elementary school students. (Contains 12 references.) (JB)

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R. Mark Kelley, Ph.D.
Southeastern Louisiana University
Department of Kinesiology & Health Studies
SLU 845
Hammond, LA 70402

Michael Young, Ph.D.
Kieran Fogarty, M.S.
University of Arkansas
Health Education Projects Office
HPER 326A
Fayetteville, AR 72701

SP035902

Introduction

The use of alcohol, smokeless tobacco, cigarettes, and marijuana continues to be a problem in school-aged students. This in true in the upper elementary school grades as well as junior and senior high school. The study examines the Stages of Acquisition of gateway drug use in upper elementary school students.

Prochaska, DiClemente, and associates (DiClemente & Prochaska, 1982; Prochaska & DiClemente, 1983;Prochaska, DiClemente, Velicer, Ginpil, & Norcross, 1985; DiClemente & Prochaska, 1985; DiClemente, Prochaska, & Gilbertini, 1985; Prochaska, DiClemente, Velicer, Ginil, & Norcross, 1985; Prochaska & DiClemente, 1986; DiClemente & Hughes, 1990; DiClemente, Prochaska, Velicer, Fairhurst, Rossi, & Valequez, 1991) developed the Stages of Change Model. This model describes the cognitive stages through which an individualss progresses during the process of cessation of habitual action. The model was developed primarily with use of smoking cessation. Some applications of this model were made to the study of the acquistion of some preventive behaviors such as mammography screening, exercise, and sun screens (Prochaska & DiClemente, 1992)

Werch & DiClemente (1994) developed the McMOS Model. The McMOS Model contains five stages of habit acquisition and five stages of habit change: precontemplation, contemplation, preparation, action and maintenance. For habit acquisition the stages are: precontemplation - those who are not thinking about starting a habit; contemplation - those who are seriously considering initiating use; preparation - those who are intending to use in the near future; action - who are initiating actual use; and maintenance - those who are continuing use. For habit change the stages areas follows: precontemplation - those who are not considering stopping use; contemplation - those who are seriously considering stopping use; preparation -

those who are intending to stop in the near future; action - those who are making atempts to stop use; and maintenance - those continuing nonuse. The McMOS Model also includes a drug specific prevention hierarchy, which is supported by previous research (Brook, Whiteman & Gordon, 1983; Kandel, 1975). This research indicates that there is a progression in drug use from the use of alcohol (beer or wine) to the use of cigarettes or hard liquor to the use of marijuana and then to the use of other illicit drugs.

The concept of the Stages of Acquisition of gateway drug use identified in this study was developed from the Stages of Habit Acquisition theorized in the McMOS Model. The Stages of Acquisition of gateway drug use Model includes seven discrete, cognitive stages. The Stages of Acquistion are as follows: Precontemplation 1 - those who have not tried the substance and are not planning to try the substance; Contemplation - those who have not tried the substance but are thinking about trying it sometime; Precontemplation 2 - those who have tried the substance but are not planning to try it again; Initiation - those who have tried the substance and are planning to try/use it again soon; Action - those who have been using the substance for a short period of time (6 months or less); Maintenance - those who have been using the substance for a long period of time (more than 6 months); and Habit Change - those who are in any of the Stages of Change. The Precontemplation 2 stage was added to the model to accomodate those who have tried a substance and have essentially regressed back to the Precontemplation stage. The study at hand is one of the first to attempt to identify the Stages of Acquisition of gateway drug use in elementary school students.

Methods

The data in the study were collected during the 1993-1994 school. The subjects were fourth, fifth, and sixth grade students from eleven elementary schools in Arkansas. The

instrument was a 109-item questionnaire which was administered in the classroom by the classroom teacher. The instrument elicited information about the Stages of Acquisition of alcohol, smokeless tobacco, cigarettes, and marijuana, demographic information and the subjects' usage of alcohol, smokeless tobacco, cigarettes, and marijuana. The usage questions were used to validate the stage placement; i.e. for each substance the researchers determined for each placement stage the usage responses that were consistent with that stage.

An evaluation packet was given to each teacher which provided detailed instructions on the administration of the instrument including a testing protocol and script as well as a copy of the questionnaire on transparencies. Teachers read the questions aloud for the students. At the conclusion of the test, the completed answer sheets were placed into an envelope provided by the Health Education Projects Office. The teacher sealed the envelope and placed it into the school mail in the presence of a student. This procedure ensured the confidentiality of the subjects.

Complete data were collected from 464 students. The data were analyzed using the SPSS program.

Results

The subjects in the study were 464 students from eleven elementary schools in Arkansas. Of the responding subjects, 77.4% (n = 359) were White, 13.8% (n = 64) were African-American, 1.7% (n = 8) were Hispanic, 2.4% (n = 11) were Asian, 0.4% (n = 2) were American Indian, and 0.6% (n = 3) indicated their race as other. Seventeen (3.6%) of the subjects did not respond to this question. There were 253 (54.5%) male students and 208 (44.8%) female subjects. Three (0.6%) subjects did not respond to this question. The majority of the subjects (n = 281, 60.6%) were in the sixth grade while 154 (33.2%) were in the fifth

grade and 26 (5.6%) were in the fourth grade. Three (0.6%) subjects did not respond to this question.

Placement into the Stages Of Acquisition Of Gateway Drug Use was determined by one question for each of the four substances examined: alcohol, smokeless tobacco, cigarettes, and marijuana. The stages were defined as follows for each substance: Precontemplation 1 - those who had not tried the substance and were not planning to try it; Contemplation - those who had not tried the substance but were planning on trying it sometime; Precontemplation 2 - those who had tried the substance but were not planning to try it again; Initiation - those who had tried the stustance and/or were planning on trying it in the next 30 days; Action - those who were beginning to use the substance regularly; Maintenance - those who had been using the substance regularly for at least six months; Habit Change - those how had been using the substance regularly for at least six months and were thinking of stopping.

In response to the alcohol stage question, 283 (61.0%) of the subjects indicated they were in the Precontemplation 1 stage, nine (1.9%) indicated they were in the Contemplation stage, 112 (24.1%) indicated they were in the Precontemplation 2 stage, 38 (8.2%) indicated they were in the Initiation stage, two (0.4%) indicated they were in the Action stage, one (0.2%) indicated they were in the Maintenance stage, and four (0.9%) indicated they were in the Habit Change stage. When the Precontemplation 1 and Precontemplation 2 stages were combined, a total of 395 (85.1%) of the subjects indicated they were not thinking about trying alcohol. Fifteen (3.2%) subjects did not respond to the alcohol stage question.

In response to the smokeless tobacco stage question, 332 (71.6%) of the subjects indicated they were in the Precontemplation 1 stage, 11 (2.4%) indicated they were in the Contemplation stage, 74 (15.9%) indicated they were in the Precontemplation 2 stage, 24 (5.2%)

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indicated they were in the Initiation stage, two (0.4%) indicated they were in the Action stage, two (0.4%) indicated they were in the Maintenance stage, and one (0.2%) indicated he/she was in the Habit Change stage. When the Precontemplation 1 and Precontemplation 2 stages were combined, a total of 406 (87.5%) of the subjects indicated they were not planning to begin using smokeless tobacco. Eighteen (3.8%) of the subjects did not respond to the smokeless tobacco stage question.

In response to the cigarette stage question, 375 (80.8%) of the subjects indicated they were in the Precontemplation 1 stage, six (1.3%) indicated they were in the Contemplation stage, 42 (9.1%) indicated they were in the Precontemplation 2 stage, 18 (3.9%) indicated they were in the Initiation stage, one (0.2%) indicated they were in the Action stage, four (0.9%) indicated they were in the Maintenance stage, and one (0.2%) indicated he/she was in the Habit Change stage. When the Precontemplation 1 and Precontemplation 2 stages were combined, 417 (89.9%) indicated they were not planning to begin smoking cigarettes. Seventeen (3.6%) subjects did not respond to the cigarette stage question.

In response to the marijuana stage question, 434 (93.5%) of the subjects indicated they were in the Precontemplation 1 stage, two (0.4%) indicated they were in the Contemplation stage, four (0.9%) indicated they were in the Precontemplation 2 stage, two (0.4%) indicated they were in the Initiation stage, no subjects indicated they were in the Action stage, one (0.2%) indicated he/she was in the Maintenance stage, and none indicated they were in the Habit Change stage. When the Precontemplation 1 and Precontemplation 2 stages were combined, 438 (94.4%) indicated they were not planning to begin smoking marijuana. Twenty-one (4.5%) subjects did not respond to the marijuana stage question.

Conclusion

The results of the study indicate that the Stages of Acquisition of gateway drug use model may be a useful tool in examining drug use among upper elementary school students. The results of the study need to replicated and further exanined to confirm the validity of the model.

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Stages Of Acquisition Of Gateway Drug Use Frequencies

Stages	Alcohol	Smokeless Tobacco	Cigarettes	Marijuana
Precontemplation 1	283 (61.0)	332 (71.6%)	375 (80.8%)	434 (93.5%)
Contemplation	9 (1.9%)	11 (2.4%)	6 (1.3%)	2 (0.4%)
Precontemplation 2	112 (24.1%)	74 (15.9%)	42 (9.1%)	4 (0.9%)
Initiation	38 (8.2%)	24 (5.2%)	18 (3.9%)	2 (0.4%)
Action	2 (0.4%)	2 (0.4%)	1 (0.2%)	0
Maintenance	1 (0.2%)	2 (0.4%)	4 (0.9%)	1 (0.2%)
Habit Change	4 (0.9%)	1 (0.2%)	1 (0.2%)	0
Missing	14 (3.0%)	16 (3.4%)	15 (3.2%)	20 (4.3%)